

# Work Order ID 66274



Page 1

February 8, 2011 2:19:25 PM

|                |                   |            |       |       |               |  |
|----------------|-------------------|------------|-------|-------|---------------|--|
| Item ID:       | D4086-232         | Accept     |       | Setup | Start         |  |
| Revision ID:   |                   |            |       |       | Stop          |  |
| Item Name:     | Placard, Max Load |            |       |       |               |  |
| Start Date:    | 2/08/11           | Start Qty: | 10.00 |       | Cust Item ID: |  |
| Required Date: | 2/11/11           | Req'd Qty: | 10.00 |       | Customer:     |  |
| Reference:     |                   |            |       |       |               |  |

|            |               |           |       |                 |            |  |       |  |     |       |  |
|------------|---------------|-----------|-------|-----------------|------------|--|-------|--|-----|-------|--|
| Approvals: | Process Plan: | <u>CL</u> | Date: | <u>11/02/08</u> | Tooling:   |  | Date: |  | Run | Start |  |
|            | QC:           |           | Date: |                 | SPC (Y/N): |  | Date: |  |     | Stop  |  |

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
| D4086    | A            |

|                 |  |      |  |  |  |  |  |  |  |
|-----------------|--|------|--|--|--|--|--|--|--|
| 100             |  | 0.00 |  |  |  |  |  |  |  |
|                 | PURCHASING                                 |      |  |  |  |  |  |  |  |
| Purchasing      | Memo                                       | 0.00 |  |  |  |  |  |  |  |
| Purchasing      | Issue P/O: <u>13453</u>                    |      |  |  |  |  |  |  |  |
|                 | Fabricate as per Dwg D4086                 |      |  |  |  |  |  |  |  |
|                 | Possible Supplier: Studio Lettrage         |      |  |  |  |  |  |  |  |
|                 | Material release note is required          |      |  |  |  |  |  |  |  |
| 110             |  | 0.00 |  |  |  |  |  |  |  |
|                 | Receive & Inspect for Damage & Mat'l Certs |      |  |  |  |  |  |  |  |
| Packaging       | Memo                                       | 0.00 |  |  |  |  |  |  |  |
| Packaging       | Ensure Material Release Note is attached   |      |  |  |  |  |  |  |  |
| 120             |  | 0.00 |  |  |  |  |  |  |  |
|                 | QC6- Inspect dimensions to drawing         |      |  |  |  |  |  |  |  |
| QC              | Memo                                       | 0.00 |  |  |  |  |  |  |  |
| Quality Control |  |      |  |  |  |  |  |  |  |

CL 11/02/08 (10)

CL 2/11 (12)

Salozlu

(10)

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**RESEARCH DESIGN AND METHODS**

February 8, 2011 2:19:25 PM

**THE UNIVERSITY OF CHICAGO**

**LIBRARY**

**PHYSICS DEPARTMENT**

**5708 S. MATHESON AVE.**

**CHICAGO, ILL. 60637**

**U.S.A.**

[REDACTED]

**00000000000000000000000000000000**

(b) (7)(C), (b) (7)(D)

[illegible]

**Reference:**

\_\_\_\_\_

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1

**Insp.  
Stamp**

[illegible]

## Packaging

[illegible]

## Quality Control

64/2/4 (10)

Ch 11/02/15

10-02-14  
(10)

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

February 8, 2011 2:19:24 PM

Page 1

Work Order ID: 66274

Parent Item: D4086-232

Parent Item Name: Placard, Max Load





Start Date: 2/08/11

Required Date: 2/11/11

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP Rev:A new issue DD 10.03.16 verified by:EC

| Component Item ID/<br>Item Name  | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit  | Total<br>Qty | Qty<br>Issued | Date<br>Issued            | Status |
|--|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|--|--------------|---------------|---------------------------|--------|
| D4086-232P<br><br>Placard, Max Load |                        | Purchased     | No          |                     |                  | 110             | Each               | 0.0000         | 1<br> | 10           |               | <i>2/8/11</i> <i>(10)</i> |        |

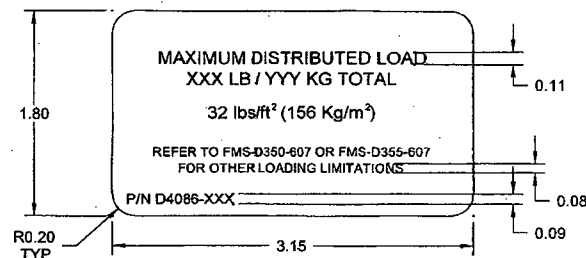
| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



8 **D4086-XXX PLACARD, MAX LOAD**  
(XXX = ALLOWABLE WEIGHT)

| PART NUMBER | LOAD            |
|-------------|-----------------|
| D4086-200   | 200 lb / 91 kg  |
| D4086-210   | 210 lb / 95 kg  |
| D4086-215   | 215 lb / 98 kg  |
| D4086-220   | 220 lb / 100 kg |
| D4086-232   | 232 lb / 105 kg |
| D4086-243   | 243 lb / 110 kg |

**NOTES:**

- 1) MATERIAL: RED LETTERS WITH WHITE BACKGROUND AND ADHESIVE BACK.  
MANUFACTURED FROM 3M, 7 MIL MASKING FILM #8522CP OR  
AVERY IPM #2031
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) PART NUMBER = D4086-MAX DISTRIBUTED WEIGHT IN POUNDS (lbs) OF THE BASKET.  
EXAMPLE: D4086-210 IS A BASKET WITH MAX DISTRIBUTED WEIGHT OF 210 POUNDS (lbs).

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 66274  
CZ11102108

**RELEASED**  
10.08.12 CP  
EEN 10-56

|  |   |  |              |
|--|---|--|--------------|
| B  | ADDED -200-215 PLACARDS.<br>REASON: ADDITION OF D350-607-54X BASKET SERIES. | MB   | 10.08.04     |
| A  | NEW ISSUE   | JPH  | 10.03.08     |
| REV.   | DESCRIPTION   | BY   | DATE         |
| DESIGN   |   | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA |              |
| DRAWN  |   | DRAWING NO.  | REV. B       |
| CHECKED  |   | D4086  | SHEET 1 OF 1 |
| MFG. APPR.   |   | TITLE  | SCALE        |
| APPROVED   |   | PLACARD, MAX LOAD  | NTS          |
| DE APPR.   |   | DATE 10.08.04  |              |
| <small>COPYRIGHT © 2010 BY DART AEROSPACE LTD<br/>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS<br/>NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT<br/>WRITTEN PERMISSION FROM DART AEROSPACE LTD</small> |   |  |              |



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID PO13453

Purchase Order Date 2/08/11

PO Print Date 2/08/11

Page Number 1 of 1

Order From :

VC-STU001

STUDIO DE LETTRAGE 2001  
210 MAIN WEST  
HAWKESBURY, ON K6A 2H6  
CA

Contact Name

Vendor Phone

613 632 5449

Vendor Fax

613 632 9491

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**PAID**  
2/11/11  
e-mail

| Line Nbr      | Reference<br>Revision ID<br>Vendor Part Number | Description/<br>Mfg ID | Req Date/<br>Taxable              | Req Qty/<br>Unit of Measure | Ship Method | Unit Price | Extended<br>Price |
|---------------|--|------------------------|-----------------------------------|-----------------------------|-------------|------------|-------------------|
| 1             | D4086-200P                                     | Placard, Max Load      | 2/11/11<br>Yes                    | 10.00<br>Each               | Yours ppd   | \$12.5000  | \$125.00          |
| Special Inst: |  |                        | AS PER DWG D4086 REV. B<br>B66276 |                             |             |            |                   |
| 2             | D4086-210P                                     | Placard, Max Load      | 2/11/11<br>Yes                    | 10.00<br>Each               | Yours ppd   | \$12.5000  | \$125.00          |
| Special Inst: |  |                        | AS ABOVE<br>B66275                |                             |             |            |                   |
| 3             | D4086-232P                                     | Placard, Max Load      | 2/11/11<br>Yes                    | 10.00<br>Each               | Yours ppd   | \$12.5000  | \$125.00          |
| Special Inst: |  |                        | AS ABOVE<br>B66274                |                             |             |            |                   |

PO Total:

\$375.00

CERTIFICATE OF CONFORMITY  
REQ'D UPON DELIVERY

Change Nbr: 1

Change Date: 2/08/11

No substitution or deviation without  
consent.  
Certificate of Conformity or Material  
Certification required when applicable



# Studio de Lettrage

210 Main Street W  
Hawkesbury, Ontario K6A 2H6

## INVOICE

Invoice No.: 15228  
Date: 02/10/2011  
Ship Date:  
Page: 1  
Re: Order No. 10288

### Sold to:

Dart Aerospace Ltd  
1270 Aberdeen  
Hawkesbury, Ontario  
K6A 1K7

### Ship to:

Dart Aerospace Ltd  
Hawkesbury, Ontario

Business No.: 869034678RP0001

|   |      |                 |                        |     |              |        |
|---|------|-----------------|------------------------|-----|--------------|--------|
| Business No.:                           |      | 8690346/8RP0001 |                        |     |              |        |
| Item No.                                | Unit | Quantity        | Description            | Tax | Unit Price   | Amount |
|   |      | 10              | D4086-200P Set up      | H   | 5.00         | 50.00  |
|   |      | 10              | D4086-210P Setup       | H   | 5.00         | 50.00  |
|   |      | 10              | D4086-232P set up      | H   | 5.00         | 50.00  |
|   |      | 1               | printing               | H   | 75.00        | 75.00  |
|   |      |                 | H - HST 13%            |     |              |        |
|   |      |                 | HST                    |     |              | 29.25  |
|   |      |                 | PST Exempt: #6122-5207 |     |              |        |
|   |      |                 | Sutorly                |     |              |        |
| Studio de Lettrage HST: #869034678RP001 |      |                 |                        |     |              |        |
| Shipped By: Tracking Number:            |      |                 |                        |     |              |        |
| Comment: PO 13453                       |      |                 |                        |     | Total Amount | 254.25 |
| Sold By:                                |      |                 |                        |     |              |        |



## Product Bulletin 8522

Release F, Effective January 2003  
Black bar in margin indicates a change

# Scotchcal™

## Opaque Imaging Media 8522

### Description

This media is specially formulated to dry quickly after printing. Production of outdoor weatherable and long-term indoor durable graphics is now easier than ever. Its changeable adhesive allows easy removal for up to one year.

### Advantages

- Optimized for use with selected Epson Stylus Pro printers and Epson Archival inks.
- Optimized for use with selected HP DesignJet Printers and HP DesignJet Ink System UV or HP83UV Color Ink System
- For making opaque, laminated graphics that are outdoor weatherable and long-term indoor durable
- Media:
  - For opaque (reflective) graphics
  - Changeable, easy to remove from warranted substrates up to 1 year later
  - Dries quickly after printing so the overlamine can be applied almost immediately
  - Low slippage paper liner for superior tiling
- Overlaminates:
  - Provide additional UV (ultraviolet) and physical protection for making weatherable finished graphics
  - Available in luster and matte gloss
  - Adhesive allows for heat-assisted or cold-temperature lamination

### Applications and Uses

3M™ Scotchcal™ Changeable Opaque Imaging Media 8522 is intended only for ink jet printing and for use with the listed Compatible Products and Equipment and the following applications. Any other application is NOT warranted by 3M or covered by the worldwide 3M™ MCS™ Warranty unless 3M gives its prior written approval for the application.

- First surface images (the image is on top of the film) for opaque posters and signs, including:
  - Graphics for vans, personal vehicles, trucks and buses
  - Novelty posters
  - Retail and point-of-purchase displays
  - Information graphics such as maps and directories
  - Entertainment promotions in museums, zoos, parks, theatres, sports venues
  - Education and presentation graphics

- Legal and courtroom exhibits

- For flat or simple curved surfaces, with or without rivets, used in vertical ( $\pm 10^\circ$ ) applications

### Limitations of End Uses

The following uses and applications are specifically NOT warranted.

- Fleet applications in areas that use salt for winter road maintenance
- Application to non-warranted substrates, including wall-board
- Applications subjected to gasoline vapors or spills
- Application to corrugated or highly irregular surfaces or sharply raised areas
- Graphics applied to stainless steel, including stainless steel vehicles
- On flat surfaces with rivets, tenting of 4 to 10 mm around rivets may be expected; rivets may be cut around to eliminate tenting.

Note: Standard ink jet technology is water based. Water-based chemistry is susceptible to the extremes of heat and humidity. This is a factor in most product constructions on the market. Read the Fabrication, Shelf Life and Storage sections in this bulletin. Staying in the middle of these ranges always provides optimum performance.

## Compatible Products and Equipment

### Thermal Ink Jet Printing Systems

- Epson Stylus Pro 9500, Stylus Pro 10000 printer
  - Epson Archival Inks
- Epson Stylus Pro 10600 printer
  - Epson Archival Inks
- HP DesignJet Printers 2000 and 3000 series
  - HP DesignJet Ink System UV (pigment-based ink)
- HP DesignJet Printers 5000 series
  - HP83UV Color Ink System

### Overlaminates (required)

- 3M™ Luster Overlamine 8519 (semi-gloss)
- 3M™ Matte Overlamine 8520

Note: For the full product names of the 3M products listed on this page, please see page 1.

### Warranted Substrates

Media 8522 is warranted for use on the following rigid substrates.

Some substrates may "out-gas", resulting in tiny bubbles throughout the surface of the graphic. For maximum performance, be sure the substrate you select is properly cleaned and prepared as recommended by the manufacturer. See Instruction Bulletin 5.1 for additional information.

- Alodine (anodized aluminum)
- Automotive panels (automotive painted steel)
- Fruehauf (painted aluminum)
- FRP (fiberglass reinforced plywood)
- Glass
- Imron® (polyurethane-painted metal panel)
- Acrylic
- Sintra™ board

### Test and Approve Non-warranted Substrates Before Use

Media 8522 is not warranted for any substrate other than those listed above. If you want to use it for other substrates, 3M recommends that you test and approve the media for both adhesion and removal characteristics.

### Characteristics

| Characteristic                 | Description  |
|--------------------------------|--|
| Media                          | 7 mil, white, opaque graphic film  |
| Liner                          | Low-slippage, lay flat paper   |
| Adhesive                       | Changeable, pressure sensitive   |
| Thickness (media and adhesive) | 7.5 to 8 mil (nominal)   |
| Application substrates         | See Warranted Substrates, above  |
| Application surfaces           | Flat or simple curved surfaces, with or without rivets, used in vertical ( $\pm 10^\circ$ ) applications (no corrugations) |
| Application temperature range  | 28° to 110°F (-2° to 43°C)<br>(air and surface)  |
| Roll sizes                     | 36" x 45 feet (914 mm x 13.5 m)<br>54" x 45 feet (1372 mm x 13.5 m)  |

## How to Become a 3M Ink Jet Registered Fabricator

Only 3M Thermal Ink Jet Registered Fabricators are eligible to offer 3M MCS warranted graphics. In order to become certified, a fabricator must complete the requirements as specified in the 3M Ink Jet Graphics Registered Fabricator Reference Manual located on the 3M website at [www.scotchprint.com](http://www.scotchprint.com)

### Effective Performance Life

To obtain the warranty given below, the graphics must be made according to 3M's recommendations which are detailed in the Warranty and Limited Remedies on page 3. Also see the section, Removability.

### Warranted Durability

| Media 8522 with Overlaminate 8519 or 8520 | Epson Printers |         | HP Printers |         |
|---|----------------|---------|-------------|---------|
|   | Outdoor        | Indoor  | Outdoor     | Indoor  |
| Applied to Warranted Substrates           | 2 years        | 5 years | 3 years     | 5 years |

### Removability

Imaging media 8522 is removable from warranted substrates for 1 year without the aid of chemical strippers or accessories. Refer to Instruction Bulletin 4.23 for additional information.

### Fabrication

Graphics must be made according to 3M's recommendations which are detailed in the Warranty and Limited Remedies on page 3.

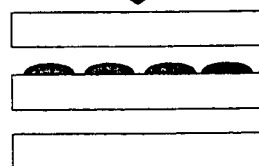
See Instruction Bulletin 4.23 for detailed fabrication, printing and mounting information.

### Graphic Construction Options

#### Opaque (Reflective) Graphics

Opaque graphics made with imaging media 8522 require an overlaminate and an opaque substrate.

Viewer/Light Source



Overlaminate 8519, 8520  
Adhesive on bottom

Imaging Media 8522  
Image on top; adhesive on bottom


Opaque Substrate

Note: For the full product names of the 3M products listed on this page, please see page 1.

## Shelf Life and Storage

- 3M™ Scotchcal™ Changeable Opaque Imaging Media 8522 has a shelf life of one year.
- Storage conditions (new and partially used rolls). For optimum performance, use the middle of these ranges:
  - Original packaging, including plastic wrap
  - Relative humidity of 20% to 80%
  - Temperature of 33° to 104°F (0° to 40°C)
  - Away from direct sunlight
- Do not stack unprotected rolls or lay sharp or heavy objects on them.

## Health and Safety

 **Caution**

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information.

To obtain MSDS sheets for 3M products:

- By fax, call 1-800-364-0768 in the US and Canada or 1-650-556-8417 for all other locations.
- Electronically, visit us at <http://www.3M.com/msds>.
- By mail, or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

## Warranty and Limited Remedies

### 3M™ MCS™ Warranty for Graphics Produced on HP DesignJet Printers and Epson Stylus Pro Printers

*The following is made in lieu of all other express or implied warranties, including any implied warranty of merchantability or fitness for a particular purpose: We warrant graphics produced by a 3M Ink Jet Registered Fabricator made with imaging media 8522, printed on an approved HP thermal ink jet printer according to HP's recommendations or Epson Stylus Pro printer according to Epson's recommendations, overlaminated with 8519 or 8520, and applied to a Warranted Substrate according to 3M's recommendations. These*

graphics are covered against failure caused by ultraviolet light, temperature extremes, pollution, and other elements.

If a graphic fails to perform in accordance with 3M product specifications within this time frame, 3M will replace the materials at no charge. **These remedies are exclusive. In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor charges.**

## 3M Related Literature

Listed below is related 3M technical literature that may be of interest. You may view and print these Bulletins from our Web site at [www.scotchprint.com](http://www.scotchprint.com), or order them via our Fax-on-Demand (FOD) system. Call one of these phone numbers to order the desired bulletins, and specify the FOD document number provided in the chart.

United States or Canada: 1-800-364-0768  
International: 1-651-732-6506

| Subject   | Bulletin No. | FOD No. |
|---|--------------|---------|
| <b>Product Bulletins</b>  |              |         |
| 3M™ Scotchcal™ Overlamine 8519 and 8520   | 8519/8520    | 4524    |
| <b>Instruction Bulletins</b>  |              |         |
| Making thermal ink jet graphics   | 4.23         | 6523    |
| Application, substrate selection, preparation and substrate-specific application techniques | 5.1          | 7001    |
| <b>Warranties</b>   |              |         |
| Worldwide 3M™ MCS™ Warranty Packet (includes all Commercial Graphics MCS Warranties)        |              | 9503    |
| Worldwide 3M™ MCS™ Warranty Overview-Folder   |              | 9504    |

3M, Scotchcal and MCS are trademarks of 3M.  
Epson and Stylus Pro are trademarks of Epson.  
HP and DesignJet are trademarks of Hewlett-Packard.  
Sintra is a trademark of Swiss Aluminum Ltd.  
Imron is a registered trademark of DuPont in the United States.

### Bulletin Change Summary

The Epson Stylus Pro Printers 9500, 10000, 10600, and Epson Archival Inks have been added to this bulletin. Additional changes resulting from this addition are marked with black bars in the margin.

## 3M

**Commercial Graphics Division**  
3M Center, Building 220-6W-06  
PO Box 33220  
St. Paul, MN 55133-3220 USA  
General Info: 1-800-374-6772  
Technical Info: 1-800-328-3908  
Fax: 1-651-736-4233

Fax-on-Demand: 1-800-364-0768 U.S./Canada or 1-651-732-6506 International  
Fax-on-Demand document: 4506  
[www.scotchprint.com](http://www.scotchprint.com)

**3M Canada**  
P.O. Box 5757  
London, Ontario  
Canada N6A 4T1  
1-800-265-1840  
Fax: 519-452-6245

**3M México, S.A. de C.V.**  
Av. Santa Fe No. 55  
Col. Santa Fe, Del. Álvaro Obregón  
México, D.F. 01210  
52-55-52-70-04-00  
Fax: 52-55-52-70-22-77

**3M Puerto Rico, Inc.**  
Puerto Rico Industrial Park  
P.O. Box 100  
Carolina, PR 00986-0100  
787-620-3000  
Fax: 787-750-3035

©3M 2003. All rights reserved.

Product Bulletin 8522 - 3